



Ref:

The Hon Justice Rachel Pepper
Chair
Hydraulic Fracturing Taskforce
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Dear Ms Pepper

I am writing concerning what I consider to be some incorrect data and analysis reported in chapter 9 of the draft Final Report of *The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory* (the Report).

The issues relate to section 9.4.2, *Inventory levels*, on page 200 of the Report.

I refer to the text presented on the Department of Environment and Energy's national greenhouse gas inventory estimates, and comparisons with estimates of fugitive emissions in the inventory for Australia with those of other sources. The analysis presented here contains the following shortcomings.

1. Inconsistent boundaries have been chosen for the comparison between the estimates of fugitive emissions of methane prepared by DoEE per unit of gas production for Australia and the US EPA estimates for fugitive emissions of methane per unit of gas production for the United States.
 - The US EPA estimate **includes** fugitive emissions from venting and flaring whereas your document quotes an estimate for Australia **without** emissions from venting and flaring.
 - Since fugitive methane emissions with venting and flaring for Australia are 23% higher than fugitive methane emissions without venting and flaring, this has a significant (depressing) effect on the calculated emission rate for Australia.
2. Inconsistent time periods for the estimate of leakage rates.
 - Estimates of emissions for Australia for the year **2014-15** are combined by your analysts with estimates of gas production for Australia for the year **2015-16**.
 - Since gas production in Australia increased by 28% in 2015-16, this makes a significant (depressing) effect on the calculated emission rate for Australia.
3. Inconsistent global warming potentials have been selected for the comparison between the DoEE's estimates for Australia and estimates cited from Littlefield 2017.
 - Estimates of the 'total GHG footprint' for Australia are estimated using a global warming potential (GWP) value of 25, whereas the estimate cited in Littlefield 2017 uses a global warming potential of 36.

- Since the GWP used in Littlefield is higher by 44 per cent, this has a significant (uplifting) effect on the calculated emission rate for the benchmark estimate cited in Littlefield for the United States.

4. Inconsistent boundaries have been selected for the comparison between the DoEE's estimates for Australia and estimates cited from Littlefield 2017.

- For example, the Littlefield 2017 study includes carbon dioxide emissions from combustion of natural gas by the industry, and is part of a life-cycle assessment, whereas the estimate for Australia does not.
- This has a significant uplifting effect on the emission rate calculated by Littlefield for the United States.
- Moreover, it is not appropriate to compare the direct fugitive emissions from Australia with a life-cycle assessment for gas supply conducted for the United States. In our view, this comparison should be excluded altogether.

All of the above have the effect of making the benchmark emission rates look higher compared with the DoEE estimates for Australia. Consequently, I ask that you revise the text to correct the analysis for the Final Report.

You may also wish to consider acknowledging in the Final Report that:

- the rate of fugitive emissions of carbon dioxide for the Australian gas industry are estimated by the DoEE to be almost twice the emission rate of carbon dioxide estimated by the US EPA for the United States;
- the DoEE's estimates for the total fugitive emissions rate of methane and carbon dioxide combined for Australia are within 15-20% of the comparable estimates for the United States prepared by the US EPA; and
- the DoEE states in its National Inventory Report (2017) that it intends to continue to refine estimates as new data emerges.

I would be very happy to discuss these matters with you and/or those who prepared the analysis contained in the Report and can be contacted at [REDACTED] or by phone [REDACTED]

Yours sincerely



Rob Sturgiss
Assistant Secretary
National Inventory Systems and International Reporting Branch
Department of the Environment and Energy
21 December 2017